

# Algebra Assessment

## ACMNA176



Name: \_\_\_\_\_

7 8 9 10 11 12



Navigator



Assessment



Student



30 min

Q.1. If  $y = 2x + 1$  and  $x = 1$  then  $y$  is equal to:

- a) 1                      b) 2                      c) 3                      d) 4                      e) 5

Q.2. If  $a = 4b - 3$  and  $b = 2$  then  $a$  is equal to:

- a) 1                      b) 5                      c) 8                      d) 11                      e) 39

Q.3. If  $y = 20 - 3x$  and  $x = 2$  then  $y$  is equal to:

- a) 2                      b) 6                      c) 14                      d) 26                      e) 34

Q.4. A number is multiplied by 5 and 3 is added to the result. Which expression best represents this process:

- a)  $5 + 3$                       b)  $5 + a + 3$                       c)  $\times 5 + 3$                       d)  $3x + 5$                       e)  $5x + 3$

Q.5. A quantity  $a$  is multiplied by 4 and then 2 is subtracted. Write this as an expression.

Answer: \_\_\_\_\_

Q.6. A bowl of fruit contains 4 apples and 5 bananas. Let  $a$  represent the quantity of apples and  $b$  the quantity of bananas. Write an **expression** in terms of  $a$  and  $b$  for the total amount of fruit in the bowl:

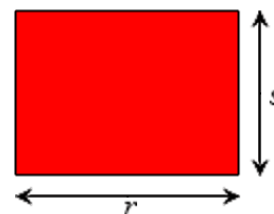
Answer: \_\_\_\_\_

Q.7. There are 24 students in a class of boys ( $b$ ) and girls ( $g$ ). Write an equation for the number of girls in the class, start your equation with  $g =$

Answer: \_\_\_\_\_

Q.8. Use  $r$  and  $s$  to write an **equation** for the **perimeter** of the rectangle shown opposite.

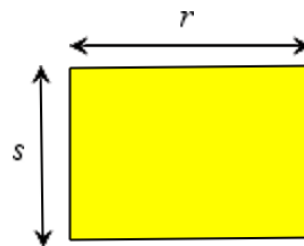
Start your equation with  $p =$



Answer: \_\_\_\_\_

- Q.9. Use  $r$  and  $s$  to write an **equation** for the **area** of the rectangle shown opposite.

Start your equation with  $a =$

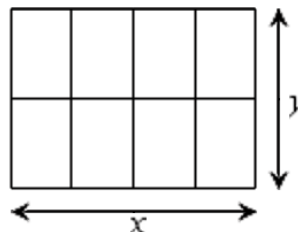


**Answer:**

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- Q.10. A wooden frame is made as shown. Write an **equation** for the **total** length of wood ( $w$ ) in terms of the lengths  $x$  and  $y$ .

Start your equation with  $w =$



**Answer:**

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- Q.11. Write an equation relating the numbers in row  $a$  and  $b$ .

Start with  $b =$

$a$	0	1	2	3
$b$	3	5	7	9

**Answer:**

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- Q.12. Write an equation relating the numbers in row  $c$  and  $d$ .

Start with  $d =$

$c$	0	2	5	9
$d$	5	11	20	32

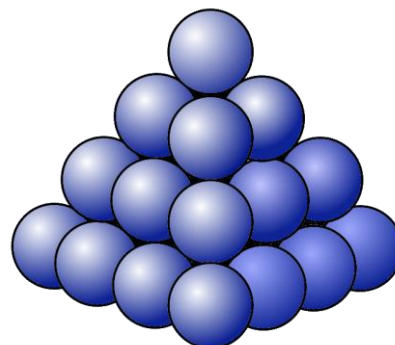
**Answer:**

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- Q.13. The ball pyramid shown has 4 levels. The total number of balls in any such pyramid of  $p$  levels is equal to:

$$\frac{p \times (p+1) \times (2p+1)}{6}$$

How many balls in a pyramid 10 balls high?



**Answer:**

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